

REMARKS

The Advisory Action mailed October 28, 2005, has been received and reviewed. Claims 1 through 14 are currently pending in the application. Claims 1 through 3 and 12 through 14 stand rejected and claims 4-11 are withdrawn from consideration. Applicants respectfully request reconsideration of the application.

Claim 1 is amended to recite a method comprising, in part, providing a rectangular, substantially planar substrate consisting of a dielectric material.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 6,370,767 to Solberg, *et al.*, and AAPA (Applicants Admitted Prior Art in Figs. 1-2)

Claims 1 and 12 through 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Solberg, *et al.*, U.S. Patent No. 6,370,767 (hereinafter "Solberg") in view of AAPA (Applicants Admitted Prior Art in Figs. 1-2). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

With respect to independent claim 1, Solberg teaches a method and an apparatus for dissipating heat from an electrical component. FIG. 1; Col. 5, lines 58-59. The apparatus includes a frame 12 with several grooves or spacings 14 separating various regions of the frame 12. FIG. 1; Col. 5, lines 60-63. The frame is constructed of a non-insulated, electrically and thermally conductive material such as copper or aluminum. FIG. 1; Col. 5, lines 64-66. The heat

sink must be thermally conductive to effectively increase heat dissipation, and thus formed of metal, rather than a dielectric. FIG. 1; Col. 2, lines 22-25. In addition, "using a metallic element...contributes to a lower cost of an electrical apparatus for dissipating heat from electrical components in comparison to using an insulated printed circuit board." FIG. 1; Col. 6, lines 3-7. Solberg also teaches various mechanical stabilizing ties 17 connecting the regions 16 of the frame 12. FIG. 1; Col. 6, lines 15-16.

Solberg, however, fails to teach a substantially planar substrate consisting of a dielectric material. Nor does Solberg teach an elongated interconnect slot comprising, among others, at least one transversely extending crosspiece, with the interconnect slot further sized and configured for alignment with bond pads on a semiconductor die.

The AAPA teaches a single interconnect slot located within a dielectric substrate. FIG. 1; ¶ [0032] of Application.

The examiner relies on the AAPA to remedy the deficiency in Solberg's teachings, but fails to establish a *prima facie* case of obviousness. Specifically, Solberg fails to provide a suggestion or motivation to combine or modify the reference with the AAPA. The examiner claims that it would be obvious to replace the metallic material of the frame of Solberg with a dielectric material of the AAPA, but to do so would render the disclosure of Solberg unsatisfactory for its intended purpose. As discussed above, Solberg specifically states that dielectric is an unsatisfactory material for a heat sink. Col. 2, lines 22-25; Col. 6, lines 3-7. "If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984); M.P.E.P. § 2143.01.

Similarly, Solberg teaches away from the claimed invention. As discussed, Solberg specifically states that dielectric is an unsatisfactory material for a heat sink. Col. 2, lines 22-25; Col. 6, lines 3-7. Therefore, Solberg teaches away from combining its disclosure with that of the AAPA. M.P.E.P. § 2145(X)(D)(2).

Therefore, the only apparent motivation to combine Solberg with AAPA seems to come from improperly relying upon Applicant's specification. Thus, absent a motivation to modify or

combine the references, it is respectfully requested that the 35 U.S.C. § 103(a) rejection of independent claim 1 be withdrawn.

The nonobviousness of independent claim 1 precludes a rejection of claims 12-14 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claims 12-14 which depends from allowable independent claim 1.

Obviousness Rejection Based on U.S. Patent No. 6,370,767 to Solberg, *et al.*, and AAPA (Applicants Admitted Prior Art in Figs. 1-2), and further in view of U.S. Patent No. 5,597,643 to Weber.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Solberg and AAPA (Applicants Admitted Prior Art in Figs. 1-2) as applied to claims 1 and 12 through 14, and further in view of Weber, U.S. Patent No. 5,597,643 (hereinafter "Weber"). Applicants respectfully traverse this rejection, as hereinafter set forth.

The nonobviousness of independent claim 1 precludes a rejection of claim 2 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claim 2 which depends from allowable independent claim 1.

Obviousness Rejection Based on U.S. Patent No. 6,370,767 to Solberg, *et al.*, AAPA (Applicants Admitted Prior Art in Figs. 1-2), and U.S. Patent No. 5,597,643 to Weber, and further in view of U.S. Patent No. 3,635,124 to Parsons.

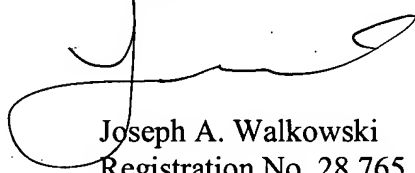
Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Solberg, AAPA (Applicants Admitted Prior Art in Figs. 1-2) and Weber as applied to claims 1, 2 and 12 through 14, and further in view of Parsons, U.S. Patent No. 3,635,124 (hereinafter "Parsons"). Applicants respectfully traverse this rejection, as hereinafter set forth.

The nonobviousness of independent claim 1 precludes a rejection of claim 3 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claim 3 which depends from allowable independent claim 1.

CONCLUSION

Claims 1-14 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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